

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

Claim 1 (original): A hybrid polypeptide immunogen comprising a modified ORF0657n sequence segment at least about 100 amino acids in length, wherein said modified sequence segment comprises one or more alterations that increases sequence similarity to SEQ ID NO: 1.

Claim 2 (original): The hybrid polypeptide of claim 1, wherein said modified sequence segment comprises at least about 100 amino acids of a modified amino acid sequence selected from the group consisting of SEQ ID NO: 2, SEQ ID NO: 3, SEQ ID NO: 4, SEQ ID NO: 5, and SEQ ID NO: 6, provided that said modified amino acid sequence contains at least 8 amino acid alterations that increase sequence similarity to SEQ ID NO: 1.

Claim 3 (original): The hybrid polypeptide of claim 3, wherein said modified amino acid sequence is SEQ ID NO: 2 containing 8 to 100 amino acid alterations that increase sequence similarity to SEQ ID NO: 1.

Claim 4 (original): The hybrid polypeptide of claim 2, wherein said modified amino acid sequence has the following sequence:

X<sup>1</sup>-AIKNPAI-X<sup>2</sup>- DK-X<sup>3</sup>-H-X<sup>4</sup>-APN-X<sup>5</sup>- RPIDFEMK-X<sup>6</sup>-X<sup>7</sup>-X<sup>8</sup>-G-X<sup>9</sup>-  
QQFYHYAS-X<sup>10</sup>-V-X<sup>11</sup>- PARVIFT-X<sup>12</sup>-X<sup>13</sup>-K-X<sup>14</sup>-IELGLQ-X<sup>15</sup>-X<sup>16</sup>-X<sup>17</sup>-  
X<sup>18</sup>-W-X<sup>19</sup>-KFEVYEGDKKLP-X<sup>20</sup>- KLVSYD-X<sup>21</sup>-X<sup>22</sup>-KDYAYIRFSVSNGT-  
X<sup>23</sup>-X<sup>24</sup>-VKIVSSTH-X<sup>25</sup>-X<sup>26</sup>-X<sup>27</sup>-N-X<sup>28</sup>-X<sup>29</sup>-EKYDYTLM-X<sup>30</sup>- FAQPIYN-X<sup>31</sup>-X<sup>32</sup>-  
DK-X<sup>33</sup>-X<sup>34</sup>-X<sup>35</sup>- EEDY-X<sup>36</sup>-X<sup>37</sup>-X<sup>38</sup>- KLLAPYKKAKTLERQVY EL-X<sup>39</sup>- K-X<sup>40</sup>- Q-  
X<sup>41</sup>-KLPEKLKAEYKKKL-X<sup>42</sup>-X<sup>43</sup>-T-X<sup>44</sup>- KAL-X<sup>45</sup>-X<sup>46</sup>-QVKSA-X<sup>47</sup>- TEFQNV-X<sup>48</sup>-  
PTN-X<sup>49</sup>-K-X<sup>50</sup>- TDLQ-X<sup>51</sup>-X<sup>52</sup>-X<sup>53</sup>-X<sup>54</sup>-VV-X<sup>55</sup>-ESVEN-X<sup>56</sup>-ES-X<sup>57</sup>-MDTFV-X<sup>58</sup>-  
HPIKT-X<sup>59</sup>-X<sup>60</sup>-LNGKKY-X<sup>61</sup>-VM-X<sup>62</sup>- TTND-X<sup>63</sup>-YWKDF-X<sup>64</sup>- VEG-X<sup>65</sup>- RVRT-  
X<sup>66</sup>- SKD-X<sup>67</sup>- KNN-X<sup>68</sup>- RT-X<sup>69</sup>- IFPY-X<sup>70</sup>- EGK-X<sup>71</sup>-X<sup>72</sup>-YDAIVKV-X<sup>73</sup>- VKTI-  
X<sup>74</sup>-Y-X<sup>75</sup>-GQYHVRI-X<sup>76</sup>- DK-X<sup>77</sup>-X<sup>78</sup>-X<sup>79</sup>

wherein

X<sup>1</sup> is either E or a D alteration;

X<sup>2</sup> is either K or an I alteration;  
X<sup>3</sup> is either D or an E alteration;  
X<sup>4</sup> is either S or a T alteration;  
X<sup>5</sup> is either S or a W alteration;  
X<sup>6</sup>-X<sup>7</sup>-X<sup>8</sup> is either KKD or NDK alterations;  
X<sup>9</sup> is either T or an E alteration;  
X<sup>10</sup> is either S or a T alteration;  
X<sup>11</sup> is either K or an E alteration;  
X<sup>12</sup> is either D or a K alteration;  
X<sup>13</sup> is either S or a T alteration;  
X<sup>14</sup> is either E or an I alteration;  
X<sup>15</sup> is either S or a T alteration;  
X<sup>16</sup> is either G or an A alteration;  
X<sup>17</sup>-X<sup>18</sup> is either KF or ST alterations;  
X<sup>19</sup> is either R or a K alteration;  
X<sup>20</sup> is either I or a V alteration;  
X<sup>21</sup> is either T or an S alteration;  
X<sup>22</sup> is either V or a D alteration;  
X<sup>23</sup> is either K or an R alteration;  
X<sup>24</sup> is either A or an E alteration;  
X<sup>25</sup> is either F or a Y alteration;  
X<sup>26</sup>-X<sup>27</sup> is either N or GE alterations;  
X<sup>28</sup>-X<sup>29</sup> is either KE or IH alterations;  
X<sup>30</sup> is either E or a V alteration;  
X<sup>31</sup>-X<sup>32</sup> is either SA or NP alterations;  
X<sup>33</sup> is either F or an Y alteration;  
X<sup>34</sup>-X<sup>35</sup> is either KT or VD alterations;  
X<sup>36</sup>-X<sup>37</sup>-X<sup>38</sup> is either KAE or NLQ alterations;  
X<sup>39</sup> is either N or an E alteration;  
X<sup>40</sup> is either I or a L alteration;  
X<sup>41</sup> is either D or an E alteration;  
X<sup>42</sup> is either E or a D alteration;  
X<sup>43</sup> is either D or a Q alteration;  
X<sup>44</sup> is either K or an R alteration;  
X<sup>45</sup> is either D or an A alteration;

X<sup>46</sup> is either E or a D alteration;  
X<sup>47</sup> is either I or a V alteration;  
X<sup>48</sup> is either Q or a T alteration;  
X<sup>49</sup> is either E or a D alteration;  
X<sup>50</sup> is either M or an L alteration;  
X<sup>51</sup> is either D or an E alteration;  
X<sup>52</sup>-X<sup>53</sup> is either TK or AH alterations;  
X<sup>54</sup> is either Y or an F alteration;  
X<sup>55</sup> is either Y or an F alteration;  
X<sup>56</sup> is either N or a S alteration;  
X<sup>57</sup> is either M or a V alteration;  
X<sup>58</sup> is either K or an E alteration;  
X<sup>59</sup> is either G or an A alteration;  
X<sup>60</sup> is either M or a T alteration;  
X<sup>61</sup> is either M or a V alteration;  
X<sup>62</sup> is either E or a K alteration;  
X<sup>63</sup> is either D or a S alteration;  
X<sup>64</sup> is either M or an I alteration;  
X<sup>65</sup> is either Q or a K alteration;  
X<sup>66</sup> is either I or a V alteration;  
X<sup>67</sup> is either A or a P alteration;  
X<sup>68</sup> is either T or an S alteration;  
X<sup>69</sup> is either I or a L alteration;  
X<sup>70</sup> is either V or an I alteration;  
X<sup>71</sup> is either T or an A alteration;  
X<sup>72</sup> is either L or a V alteration;  
X<sup>73</sup> is either H or a V alteration;  
X<sup>74</sup> is either D or a G alteration;  
X<sup>75</sup> is either D or an E alteration;  
X<sup>76</sup> is either V or an I alteration;  
X<sup>77</sup> is either E or a D alteration;  
X<sup>78</sup> is either A or an I alteration;  
X<sup>79</sup> is either F or a N alteration;

provided that at least 20 of said alterations are present.

Claim 5 (original): The hybrid polypeptide of claim 4, wherein said modified sequence segment comprises at least 200 amino acids of said modified amino acid sequence.

Claim 6 (currently amended): The hybrid polypeptide of claim 4 [[5]], wherein said modified sequence segment comprises said modified amino acid sequence and at least 55 of said alterations are present.

Claim 7 (original): The hybrid polypeptide of claim 1, wherein said hybrid polypeptide consists of a sequence selected from the group consisting of SEQ ID NOs: 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, and 43.

Claim 8 (original): A method of making a hybrid polypeptide comprising the step of introducing one or more alterations into a ORF0657n sequence segment at least about 100 amino acids in length, wherein at least one of said alterations increases sequence similarity to SEQ ID NO: 1.

Claim 9 (original): An immunogen comprising the modified ORF0657n sequence of claim 1 and one or more additional regions or moieties covalently joined to said sequence at the carboxyl terminus or amino terminus, wherein each region or moiety is independently selected from a region or moiety having at least one of the following properties: enhances the immune response, facilitates purification, or facilitates polypeptide stability.

Claim 10 (currently amended): A composition able to induce a protective immune response in a patient comprising an immunologically effective amount of the immunogen of claim 1 any one of claims 1-7 or 9 and a pharmaceutically acceptable carrier.

Claim 11 (original): The composition of claim 10, wherein said composition further comprises an adjuvant.

Claim 12 (currently amended): A method of inducing a protective immune response in a patient comprising the step of administering to said patient an immunologically effective amount of the immunogen of claim 1 any one of claims 1-7 or 9.

Claim 13 (original): The method of claim 12, wherein said patient is a human.

Claim 14 (original): The method of claim 13, wherein said patient is being treated prophylactically against *S. aureus* infection.

Claim 15 (currently amended): A nucleic acid comprising a nucleotide sequence encoding the polypeptide of claim 1 ~~any one of claims 1-7~~.

Claim 16 (original): The nucleic acid of claim 15, wherein said nucleic acid is an expression vector and said nucleotide sequence is part of a recombinant gene.

Claim 17 (original): A cell comprising the recombinant gene of claim 16, wherein said recombinant gene expresses said nucleic acid sequence in said cell to produce said polypeptide.

Claim 18 (original): A method for evaluating the efficacy of an immunogen to produce a protective immune response against *Staphylococcus* comprising the steps of:

- (a) inoculating an animal model with said immunogen to produce an immunized animal model;
- (b) challenging said immunized animal model with a *Staphylococcus* challenge at a potency that provides about 80 to 90% death in said animal model over a period of about 7 to 10 days starting on the first or second day, wherein said *Staphylococcus* challenge is produced from *Staphylococcus* grown to stationary phase, and said *Staphylococcus* challenge is intravenously introduced into said immunized animal model; and
- (c) measuring the ability of said immunogen to provide protective immunity.

Claim 19 (original): The method of claim 18, wherein said *Staphylococcus* is *Staphylococcus aureus*.

Claim 20 (original): The method of claim 19, wherein said animal model is a rat or mouse.

Claims 21-23 (Canceled).